Review of: "Performance Evaluation and Analysis of Electric Vehicle Parameters – A Test Bench"

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Potential competing interests: No potential competing interests to declare.

The article describes the theoretical foundations and the construction of a simulation computer model intended for testing electric cars of various designs. The model contains a description of the basic design elements of the electric car, a mathematical description of their function and efficiency, which in sum gives the total traction force. The traction force of the electric car in this simulation model is opposed by the sum of the forces of all the resistances that act against the movement of the tested electric car.

It is possible to analyze the battery and engine performance of electric cars using this simulation calculation model. The entered various input parameters of the vehicle and their electrical parameters by changing, it is possible to obtain different characteristics of the monitored vehicle parameters and compare them with the parameters of other vehicles. It is thus possible to optimize the design by selecting suitable components of the electric car to improve performance. The results of simulations stored in the Cloud can be used to compare the parameters of electric cars of different designs. The suitability of used components of new electric car prototypes can also be monitored in terms of evaluating the performance of the electric car and its energy consumption in this way.

I would like an explanation of what model of electric car the Ather 450X is, in the text of the article. However, the ideal solution to support the usability of the described simulation calculation model would be, according to the proposed simulation calculation procedure, to perform a test of two commonly sold types of electric cars and to compare the results of the analysis of their parameters.

The article is at an average level in terms of formal editing. The text is comprehensible and unambiguous, except for the lists of computational relations. I recommend rewriting all equations in MS WORD Equations Editor 3.0 here. The current state of the statement of computational relations is confusing and imprecise because it is not written according to the standard. Verbal expression of substituted parameters into calculation relations is inadmissible and unprofessional. It is necessary to review the units used also. In the calculation relation for the calculation of the resistance to the climb, the angle of inclination of the road is substituted in degrees, not in radians for example. Graphs and figures are chosen appropriately and support the text well, except for figures 6, 8, 9, 10, 12, 13, 14 and 26. The texts of the descriptions of the details in the figures or the descriptions of the x and y axes of the graphs are illegible in these figures.

It should be possible to publish the article after removing the mentioned deficiencies.